

"garden apartment" type building. Three stories is the maximum tolerable "walk-up". Practically no-one ever builds four or five stories tall on the basis of economic analysis. At that height, all the expenses of elevating the building have been encumbered, but the ratio of floor area served to elevator cost is enough to wipe out the economic benefit of obtaining only one extra floor. (The Monroe County land use plan includes such an option, but limits its application to construction of "affordable" housing that must also provide emergency shelter accommodations. In the process, our "planners" proposed the most expensive form of building limited to an occupancy category least able to afford any premium construction at all. There have been no takers.)

The fact that the ground level may be entirely unusable, or only marginally useable, due to special flood level constraints, may shift the balance up or down a story by ground level square-footage rendered unusable by FEMA regulations. Therefore, without attempting to regulate height of a vertical shelter project, developer's pocketbooks would almost certainly force a choice of either eight or fifteen stories. Under those same FEMA regulations, if the building contains commercial occupancies, the ground level may also become useable by "flood-proofing".

B. Building Cost Impacts

The costs of putting conventional building materials in place aloft increases with height (another form of elevator problem). All building materials must be hoisted into place. The cost and time of hoisting materials increase the costs of the finished building. As certain increments of height are reached, the size, type, and number of pieces of hoisting equipment needed on the job increase, further compounding height/cost relationships.

Requiring the building to be designed for a reference "base wind" loading above that specified by building codes, subjects the basic building frame to a design requirement of resisting progressively increasing horizontal forces as buildings get progressively taller. For a tall building, "base wind" is not the NOAA reported "worst case" experience. It actually becomes the "least" wind speed used, and only for low buildings. From there up, that reference wind load is exponentially increased with height.

Our existing building code requirements would not have been exceeded by the speed of Hugo at landfall in the Carolinas. In addition, buildings are not designed to resist applied loadings *as their ultimate strength*. An additional "ultimate strength" is required, beyond that needed to support the required loading (called "factored" load or load multiplier, - a required "safety factor" in layman's terminology).

Raising base wind speed load requirements primarily causes cost increases in columns, frame, and foundations beneath those columns. In general, the cost of the structural frame of a building represents approximately 15 % of the cost of the building.

Other than wind forces on the building and flood levels around its base, special provisions

have been incorporated in the suggested text of proposed regulations to provide safety from hazard of flying debris during the storm. The greatest exposure risk for these missiles is via windows in the building. Requirements for shatterproof material (polycarbonate) glazing to be substituted for conventional glazing imposes an additional cost premium of double the price for glazing material itself. Add these costs to premium prices for frames designed to withstand increased wind loading, plus another approximately 10 cent-per-square-foot glazing cost extra for installation in a high-rise building, and construction costs rise even more.

C. Special Building Contents

Requirements for provision of stand-by generator equipment and stored emergency drinking water supplies may not actually represent a special cost premium addition of the magnitude that their actual procurement might seem. If an elevated building had been contemplated for other reasons, existing codes already require some amount of stand-by emergency generating facilities to be provided.

The new considerations become the added expenses of locating that equipment above flood elevation risk, and providing fuel storage adequate to carry its operation for the length of time refuge functions may be required, - somewhat more than might have ordinarily been needed to provide for a conventional building emergency power outage.

What is a bit unusual in the Keys is that elsewhere such stand-by equipment can normally be housed underground. In the Keys, such stand-by equipment cannot be placed underground, but must be located above flood level (or within a "flood-proofed" enclosure at grade), adding to the cost of housing it, and contributing to another reduction in net rentable floor area in the total project.

If proposed non-emergency use of the building were selected from among those forms of occupancy that normally include restaurant or banquet facilities, all equipment required for food preparation, large floor areas for emergency cot set-ups for sleeping accommodation, and public rest-room facilities *would already be part of the commercial facilities required for everyday use under non-emergency conditions.*

Even requirements for provision of special emergency communications facilities, to be used by the Office of Emergency Management during a declared emergency, could become a functional element of a non-emergency use. Provision of "head end" equipment for internal cable television distribution, and/or data link facilities has become increasingly attractive for commercial facilities. Additional OEM equipment might be housed in the same space with little loss of available square-footage to the building operator.

For such reasons, the most probable use of opportunities created under these proposed regulations can already be foreseen as potential hotel facilities, or office buildings, - with the additional possibility of a mixed-use occupancy ("sandwich" type buildings, usually consisting of

ground level retail facilities, several floors of office use occupancy, sometimes several floors of residential apartment units, and often topped with a roof-top restaurant).

D. Land Costs

In general, there is a fairly consistent relationship between the market price of land and the value of the building development it must support. Land is especially scarce in the Keys and generally commands a high premium. In other parts of the country, the prices of urban land are reflected in the height of buildings built on it.

Ultimately, the sum of cost of building-plus-cost-of- land results in a figure yielding total project cost per square foot of "net rentable space". Feasibility is then reckoned in terms of whether or not the market value of that "net rentable" square footage will yield an attractive return on the investment of total project cost.

Market demand is related to supply of desired amounts of square footage available for the purposes for which it is to be used. If not enough floor space is available on the market, the price goes up. If enough exists, at an acceptable price, no more will be built (particularly at a premium cost).

Planning and zoning regulations have an enormous impact on the relationship of land cost to development value. However a set of restrictions evolve, for whatever reasons that led to their adoption, ultimately there will only be a fixed amount of land utilized for whatever developments are economically feasible.

When there is not much more land on which zoning laws permit additional office space to be built at reasonable costs, prices of available office space increase (until it becomes high enough to justify constructing it in more costly ways). The price of remaining land able to be developed also rises along with cost of building.

Since zoning determines both the amount of land available for a given land use, and the extent to which that land may be developed for such use, it ultimately determines real estate valuation placed on that land. Until now, zoning practices have not permitted appreciated value of real estate, generated by regulatory constraints on land use, *to be realized by the community, - essentially the entity generating those values !*

The principal criterion of real estate valuation is "location". What makes a location desirable is its proximity to values created by the surrounding community: travel time to community facilities; access via community transportation facilities; access to a labor supply; access to utilities; access to market; access to recreational opportunities; access to schools; etc.

When these location "values" are stipulated for a given use by zoning regulations, that zoning

category determines the inherent valuation of the land. While the investment of a developer is required to realize that value, the designation of permissible usage to which land may be put places an implied value on the site itself.

In that process, real estate speculation, by persons other than developers, offers an opportunity for profit by administrative land use processing that alters use to which land may be put, even for those having neither the intention nor the ability to make use of new land use categories themselves.

If land of existing lower use value zoning can be given a new zoning classification that creates opportunity to put it to a use commanding a higher yield on investment, its existing lower valuation can be used to tolerate a higher cost of construction in its development, and still leave the total project cost combination of land and building an economically viable investment.

To assure the concept not being allowed to degenerate into more grist for land speculators' mills, provisions were incorporated in the proposed regulations that require a prospective developer to complete all required drawings for submittal for his building permit within six months of conditional HSD zoning approval of his major conditional use application. Construction must begin within the usual limitations after permit issuance. *The building, rather than its land, receives the zoning classification.*

When establishing requirements, consideration must be given to the cost of preparation of necessary drawings for such a building which will include substantial fees for several design professionals (architect, landscape architect, structural engineer, mechanical engineer, electrical engineer, and perhaps related specialists such as geo-technical engineer and environmental engineer).

In addition, fees will have been paid to a variety of consultants as part of the "front end risk costs", to prepare preliminary concept drawings of building, site plan, traffic studies, market surveys, impact analyses, etc.,- simply to prepare the project concept for presentation to request the special major conditional use approval being sought,- even under the proposed new regulations for this new HSD category of land use.

It is not reasonable to also expect all costs of final design preparation (generally about six percent of estimated construction cost) to have been prepared before it is known whether or not permission to develop the project will be granted. Nevertheless, preparation of all final design materials that will be needed to build a building of that complexity will have to be done before a permit for its construction could be issued, and before its final cost estimate and contracting could be undertaken.

Time will be required between the time project approval is received on the basis of less-than-complete final building drawings, and the time all design work can be accomplished.

For a developer seriously pursuing the perceived new opportunity, and prepared to proceed as soon as authorization is received, six months is probably adequate. For a speculator intending to shop for a buyer to pay a premium for preliminary processing approval received, who must then award a contract for design of the facility,- it is hoped the time will be inadequate, and approval that had been granted will lapse.

In order for the program to be considered a serious effort to encourage the private sector to provide needed public facilities, it is also apparent that lead time to get them built should be minimized. Processing time should be minimized, and thereafter, only a serious developer should be given opportunity to participate. A new land value will be created by approval of such a proposal, but that value should be reserved to the investor/builder seriously intending to incorporate the valuation awarded in the community facility justifying award of HSD land valuation.

A new form of "re-zoning" has been suggested. It becomes a zoning category awarded to the permitted building rather than the empty site on which it might be placed. Only the presence of the kind of building proposed creates the community need being satisfied, and, without the building, the value-added by community proximity cannot be realized by the community.

The type of vertical shelter building that has been described, when built, will be among the most expensive buildings in the Keys on a cost-per-square foot basis. Every effort must be made to assure that an opportunity exists for total project cost to remain in the realm of economic feasibility. An "add-on" land speculation premium for zoning processing should be prevented.

That premium may be needed to pay for the community safety asset cost premium encumbered to build the development envisioned. It takes the building itself for that public safety value to be realized. Need to pay for non-productive siphoning off of an artificial land-value may remove the margin of potential yield on investment needed to pay for the building itself. With that, there may be no building, and the public safety risk will remain what it was.

The greatest likelihood of the needed shelter facilities coming into being, given the premium costs described to build them, suggest that only the lowest cost sites are likely to allow consideration by a developer. (Where land already held by the county, of appropriate size and location, is available, it might be offered for sale at a nominal price to a developer solely for HSD use.)

Fortunately, the siting requirements for shelter purposes described, and the conditions contributing to highest prices of land in the Keys, are mutually exclusive. In general, the highest priced land in the Keys is on the water (or a canal providing convenient access to the water), or commercial property immediately accessible from the Overseas Highway. (A substantial value may also be placed on availability of an unobstructed view of the sea.)

By contrast, siting requirements for a vertical shelter project require it to be located as far

from the nearest shoreline as possible (not less than 750 feet as written in the draft), and not closer to U.S.Rte.#1 than 300 feet,-to avoid creation of another traffic congestion hub on U.S. #1 during all the time the building will not be called upon to provide its hurricane emergency response.

The combination of "away from shoreline" and "away from U.S. Route #1" also defines the lowest land valuation areas of the Keys considered "buildable". Accessibility from U.S. Route #1, via good paved secondary roads, remains a requirement, but this sort of access would also be a minimum requirement for any viable commercial development as well.

E. Potential Cost-Offsetting Economic Values Created

Other than land appreciation as a value-added component of completed facilities, possession of the only tall building within a five-mile distance creates a unique "address" that also distinguishes the building. Such a building, offering back-up power for even conventional power outages that afflict many areas of the Keys, also has additional appeals to users that create a basis for commanding a premium for the "net rentable" space made available. The fact that the building is capable of surviving most hurricane risks to which the area may be subject should itself command a premium in the market. Certain fixed costs to an owner, such as insurance premium for flood and glass damage (on the building), and for occupants (on contents), may also become a selling point.

Finally, the principal attraction of the Keys, the view of surrounding oceans, which creates premium land values along shorelines, may suddenly become available to occupants in the middle of the island, on floor levels high enough above trees to be able to see across intervening land. Availability of such a vantage point should also command a premium, particularly for such a facility as a roof-top restaurant.

VI. ATTRACTING VENTURE CAPITAL

Once the new rules have been adopted, another lapse of perhaps three years at the least can be expected before the first structures built under the program are likely to become available.

Buildings of the sort envisioned will require investment of larger amounts of capital than has traditionally been required for projects of this sort. They may also be expected to demand building trades skills not commonly available in the Keys (another source of increased construction cost to prospective developers). The additional costs to the building for provision of sprinkler and stand-pipe systems, and fire-proof construction details are also encumbered on tall buildings, and the absence of adequate fire-fighting equipment to serve tall buildings in the Keys will also become a consideration (fire hydrant pressure ?)

It is likely that attracting prospective developer(s) will become dependent on attracting developers not presently operating in the Keys. Some amount of public relations efforts might be

needed to inform developers from beyond the borders of Monroe County of the emergence of a new, if limited, opportunity here. Emergence of the Internet as an international source of news to investors should relieve the communications problem.

The construction industry has always had an internal "grapevine" of its own, and word will spread without any sizeable advertising effort (web page ?). It is most likely that one or another of the self-appointed guardian organizations will furnish the needed furor to obtain media coverage of the program at no advertising cost at all, particularly if announcement of the proposed program falls on a slow day for news. In addition, several more enterprising of the local real estate firms, that also have financial contacts outside the United States, can be expected to initiate efforts to line up land assemblies meeting siting criteria to create syndicates for the purpose. Local joint ventures can develop appropriate packages, and additional publicity will be provided by "leakage" from these efforts, probably while adoption of the program itself is still under debate.

The creation of "venture capital" organizations has become quite prevalent in financial circles. While tax-shelter gimmickry is no longer available to launch real estate developments of specious economic value, this new type of available development potential must be economically sound, as a conventional investment intended to produce a genuine economic yield, rather than as a tax evasion device.

Ultimately, everything must find its own level of attractiveness between marketplace for facilities, and construction cost of regulatory compliance.

VII. Special Administrative Procedures

Since the land use regulations were adopted, county and municipal planning staffs will be facing the need to deal with requests for a new type of exception to existing provisions of land use regulations (not to mention the variety of other state and federal regulators overlapping their functions). For the first time, the function of applicants is to provide a needed community service for which the plan itself made no provision. Obviously, our local governments do not have the resources to supply the community needs cited, and continued participation in the FEMA program (and Florida statutes themselves) require them to plan and program provision of shelter facilities (a requirement that has not been seriously addressed in the effort to drive land use planning by an "envirocentric" single purpose agenda.)

Previously, requests for major conditional use variances, or exceptions to provisions of land use regulations, generally involved processing of requests to obtain additional benefits to a property owner. In all these cases, the sole beneficiary of granting a conditional use or variance has been the owner. In departing from provisions of the plan, whatever disadvantage might be incurred has been at the expense of the surrounding community, or some perceived "sacrifice" of the presumed "integrity" of the land use plan itself.

In general, such requests are reviewed to determine whether or not granting such requests adversely affect the intent of the land use plan, create adverse demands on public facilities, or inflict adverse impacts on the community at large to accomplish a private purpose. The principal focus of review processes has been, and remains, to determine whether or not a reason can be found *for denial of such requests*, and/or to exact a premium payment in impact fees for its approval. The over-riding operative principle has been to *allow nothing to depart from literal details of regulations* that might alter the intent of the plan under the circumstances of the request. Such review procedures are designed to prevent or minimize deviation from details of content of the plan as it now exists.

Nothing about the existing plan includes specific provisions for establishment of a series of emergency hurricane shelters, or allocation of land use for the purpose. What is therefore being proposed will actually become, in effect, a zoning classification, perhaps "Hurricane Shelter Development (HSD)", to be placed on maps by procedures suggested, only upon completion of construction of the proposed facilities as approved.

Review of applications for HSD changes in land use designation must be seen as being quite different from major conditional use applications previously processed by the planning departments. The review process cannot focus on preservation of the plan as it exists. Granting approval to applicants presenting requests fulfilling requirements of the proposed new regulations provides a benefit to the surrounding community of life-saving magnitude, and is intended to rectify a glaring oversight in the plan as it exists! In contrast to present procedures for review of proposed deviations from the plan as it exists, the new process is oriented toward protection of human life and safety by willingly granting a variation from a plan that failed to provide it.

Buildings meeting the requirements stated in the proposed regulations will undoubtedly have an impact on areas surrounding any proposed site meeting HSD siting requirements as stated. In general, to be viable they must become a traffic hub, imposing a substantial increase in daily trips on tributary road systems providing them with the access requirements for a shelter site. Site requirements for their being somewhat removed from more densely developed areas will concurrently force them into areas presently indicated on planning maps as designated for less dense volumes of traffic development.

On its face, the new HSD category establishes requirements that create a paradox for traditional review processes. This paradox must be fully recognized by all those involved with review procedures. Establishment of HSD zones will create a new community hub specifically where existing plans did not provide such a hub. The review process must be seen as one involving a trade-off between modifying the plan to accommodate an oversight fault in its details, - or finding adverse impacts on retention of the existing plan concept in the immediate vicinity of proposed HSD sites as being of such great community importance that it supersedes the importance of saving a few hundred lives!

Under these conditions, it is difficult to conceive of any impact on surrounding areas being

of greater significance than the risk encumbered by denial of such a requested zoning change, other than an impact which itself might be measurable as resulting in risk of several hundred human lives.

From a planning perspective, the opportunity to create a set of off-highway, off waterfront hubs should actually be seen as a beneficial relief for some of the problems inherent in the plan as it presently exists (viz- in explaining the intent of the designation "suburban commercial", in the land use plan, it is described as intended to provide for local commercial occupancies to be located off US Rte. 1, to relieve some of the traffic impacts on US Rte. 1 for local facilities not needing a site on the highway. Having explained that concept, on the maps that were developed in the county, one cannot find a single parcel of SC land zoning in the lower Keys **except along US Rte 1.**)

Whatever volume of traffic may be diverted away from existing high traffic areas by these scattered HSD projects can only have a beneficial effect on curtailing development of increasing congestion along the Overseas Highway. If highway and waterfront could be thought of as equivalent of our elongated "downtown" (the CBD in planner jargon), these HSD projects might be thought of as analogous to suburban decentralization. To the extent that the work force in these buildings lives in nearby residential areas, to-and-from work trips can occur without use of U.S.Rte.#1 for work-related commuting. To the extent that an office occupancy serves the surrounding residential area (viz.- a group practice center of physicians operating an out-patient clinic), another set of trip origins and destinations can be moved from U.S. Rte.#1 to secondary roads. Were the facility a hotel, the volume of tourist traffic it attracts might be traffic otherwise impacting a waterfront location.

In all likelihood, had each island ever developed a deliberate Year 2025 plan, the sort of thing conventionally thought of as land use "planning", it is doubtful if each would not have envisioned a set of decentralized off-highway and off-waterfront community centers of one sort or another. Absent such deliberate planning, a set of HSD zones based on the suggested siting criteria may accomplish a similar planning purpose, and actually serve the needs of public safety rather than special interest pressures of land speculators. The recent wave of community incorporations is undoubtedly the result of increasing awareness of the fact that each of these new incorporated communities recognize that it has unique needs *as a community* that are not necessarily served by a one-size-fits-everything plan devised to serve the disparate needs of the county as a whole.

A new concern might enter the scene which might not leave advantage of a location on Duval Street or U.S. Rte. #1 as secure an attraction as it might now seem. When built, will a U.S. #1 location still attract a user in the face of availability of an accessible location in hurricane-safe buildings away from highway congestion? The presence of an alternative is enough to cause some people to pause before continuing to invest in existing patterns of development. Most of the present restriction of development (under the terms of the Rate of Growth ordinance) were originally derived from efforts to support what has become recognized as the obviously outmoded concept of the capacity for overland evacuation in response to a hurricane threat.

An overriding factor that cannot be underestimated is the required lead time. HSD projects

deserve high-priority expediting of approval procedures. It was clearly intended by the land use planning process to constrain rate of development ("growth management"), *primarily via expressions of concern about hurricane evacuation lead time !*. HSD projects relieve the concern that ostensibly was purported to be the justification for present "growth management" procedures.

For the kinds of projects intended to be constructed under the HSD program, the lead time between project concept and completion of construction, exclusive of time consumed by administrative procedures, cannot be expected to be much less than three years. No one can foresee which of those three years might be the one bringing a killer storm. Even an approved project may actually come too late.

In terms of risk evaluation, the risk of error in approving a project, even despite some technical deficiency in an application, is smaller than the risk of failing to approve one that had the potential of saving lives despite the deficiency. The better procedure would be to approve proposed projects containing deficiencies on a conditional basis (conditional on correcting the deficiency before the building permit will be issued), than refraining from taking action until every detail is in place in administrative paper work. In general, it is more important that projects proceed on the basis of being brought into compliance than that a basis for rejection be found. Permit processing momentum should not be slowed.

On the other hand, too small a site to be correctable, too close a site to one already approved, or similar inadequacies inherent in the location or the amount of land assembled do not lend themselves to conditional approval. These are deficiencies that cannot be rectified by the applicant. They are inherent in the land itself. The applicant must find another site if he wishes to participate in the program. Even the presence of examples of endangered species should not become the basis for rejection (mitigation or transplanting is preferable to rejection). The over-riding endangered specie of concern in this program is *homo sapiens* !

Another planning purpose being served might be that sites offered will probably be from among types providing for some amount of residential occupancy. The least likely occupancy type for HSD projects will be some sort of "affordable housing" residential use, - other than provision of housing for staff. In the process of re-zoning, existing permitted residential densities, no matter how few, will be deleted by change to HSD zoning for all non-residential occupancies proposed for HSD projects. To that extent, existing permitted ultimate residential density will be reduced. In the proposed regulation, no increase in residential density has been permitted for HSD projects.

If despite such provisions, someone should decide to attempt a super-luxury condominium development (the only sort that could afford the costs of such an expensive type of building), any density increase could be dependent on use of transfer development rights. To the extent that those development rights are transferred from other places where single family units might have been built, more open space is created elsewhere, and no net increase in total density has occurred. In addition, accommodating existing density vertically reduces land coverage and open space consumption that occurs under existing single-family residential categories in the land use

regulations. To the extent that existing residential occupancy density has been predicated on a need to assure adequate evacuation lead time in the event of a hurricane emergency, it is recognized that all such occupancy capacity provided in the project *contributes nothing to hurricane evacuation lead time requirements*, and in fact reduces that lead time requirement by the amount of shelter/refuge capacity provided.

Protections have been built-in to proposed regulation language to be more than adequate to prevent adoption of the program from contravening the purpose and intent of those land use regulations that were not derived from hurricane evacuation considerations. Had the need been thought out thoroughly at the time the land use regulations were thrown together, it is more likely that incorporation of something very nearly like the program presented herein would have been part of the original plan contents. Had that been done, with the HSD zone locations selected in advance as part of the plan, it would unfortunately also have awarded valuation of the site being created to the land rather than the building, and have simply become grist to land speculators' mills, creating a cost premium for sites that would have reduced potential economic feasibility of constructing the projects, or at least deferred a "taker" until the market developed to a point where even the elevated price became "affordable". That does not drive developers to do it now.

As presented, in order to realize any benefit of ever building HSD projects, the developer's only opportunity may be to do it now. The opportunity is lost if permitted and not acted upon, and the opportunity may be lost if someone else does it first, somewhere else, within four miles of wherever another developer may have preferred to put one.

The following text is proposed as a special purpose new zoning classification under the local Land Development Regulations. It provides for review under terms of provisions applicable to major conditional use projects, with one basic difference in the function of the review and approval process. The *site* does not receive the requested reclassification in the process of review and approval procedures. Reclassification and map changes do not occur until the building proposed for construction on the proposed site has been built.

The intent and concern of most provisions of existing major conditional use review procedures has been concern that the community and resources of the area are not adversely affected by changes being sought or developments proposed. In the case of the new category being created, the intent is to provide encouragement of developers to supply a needed service for protection of the community, where it can be of greatest service to the community, albeit understood to perhaps be contrary to existing land use concerns for a specific parcel.

Such applications should be reviewed more simply than the original defensive intent of major conditional use review procedures. Many detailed requirements applicable to most major conditional use types of projects should be waived as inapplicable for preliminary review. Site requirements and limitations themselves, as provided herein, automatically eliminate the need for most contents of environmental impact assessments.

Such remaining impacts, that may not be seen as provided for by the HSD criteria stipulated, are deemed acceptable by inference, in return for the public safety community service being provided, - regardless of what might have previously been considered an adverse effect. Recognition of the need for such shelter capacity has become widely recognized. When the proposed new regulations have been adopted, at best we might anticipate that it will take perhaps three years before the first such buildings will become available to serve the identified need. Ergo,

"If 'twere done when 'tis done, 'twere best 'twere done quickly"...

PROPOSED CODE REVISION TEXT

HURRICANE SHELTER DEVELOPMENT (HSD) ZONES

1. Qualifying Site Requirements for HSD Zones

A site for a proposed HSD will not be considered eligible for this classification if it fails to meet any of the following basic site requirements:

- a. The site must contain not less than 4.0 acres nor more than 6.0 acres in area.
- b. No point on any site boundary shall fall within 750 linear feet of the nearest shoreline of a natural body of water. (Shoreline is defined for purposes of these regulations as a point whose natural elevation is less than or equal to Mean High Water as established by reference to the United States Coast and Geodetic Survey (USCGS) 1929 National Gulf Coast Vertical Datum (NGVD), and continues from there to a natural body of open water.
- c. Minimum width of a site across its narrowest dimension shall be not less than 400 feet.
- d. The site shall not be within four miles distance to next nearest existing HSD approved site, except public (county, state, or federal government owned) buildings also complying with requirements of supplying HSD facilities in accordance with these regulations.
- e. No site boundary shall be within 300 feet of the right-of-way of U.S. Route #1.

2. Special Structural Design Requirements for Buildings in HSD Zones

No building or other structures intended for human occupancy may be constructed within a HSD zone which, in addition to compliance with all applicable requirements of the Building Code and all codes of reference therein, fails to meet all additional criteria listed below:

a. Minimum elevation of lowest occupied floor shall not be less than 1.0 foot above highest grade elevation of the site. The exterior of the building shall be flood-proofed to an elevation not less than 1.0 foot above the base flood elevation in accordance with recommended Federal Emergency Management Administration (FEMA) flood-proofing requirements. Flood-proofing shall not be required if the lowest habitable space is a minimum of one foot above base flood level in an "A" zone, or if the bottom of the lowest supporting horizontal structural member is a minimum of 1.0 foot above the base flood elevation if the site is within a "V" zone as indicated on the FEMA 100-year flood maps.

b. The building(s) shall be designed to resist a fastest-mile sustained basic wind speed of 155 miles per hour, applied in accordance with provisions of Section 1601 of the Florida Building Code for wind loading (ASCE 7- 98) with all resulting stresses calculated remaining within limits

permitted under relevant provisions of the building code pertaining to materials employed in the construction.

c. All glazed exterior wall openings shall be equipped with permanent storm shutters capable of being operated from within the building, and capable of functioning when subjected to the same wind loading as that applied to the building in accordance with requirements of section 2.b. above, or shall be glazed with polycarbonate or laminated safety glass affixed to window frames in a manner calculated to withstand combined effects of both wind loading specified in paragraph 2.b. above and a concentrated impact load of 200 pounds applied anywhere on the glazed surface.

d. All support structures located below the elevation of the base flood level must be designed to function as intended when considered inundated to a static water level at the base flood elevation, concurrently with wind loading specified in paragraph 2.b. above.

e. Structural adequacy of upper floor levels shall remain unimpaired if all or any portion of enclosing perimeter walls below the base flood level were removed or destroyed.

f. Barometric pressure equalization shall be provided to assure that all enclosed volumes of space are provided with positive venting of interior volumes to the building exterior under any conditions in which outside barometric pressure falls below 27 inches of mercury (27.0" Hg). Such venting controls may be provided by gravity operated dampers combined with mechanically operated methods to assure at least two operative redundant mechanisms being available to prevent existence of a pressure differential between enclosed interior spaces and an external barometric pressure greater than two inches of mercury (2.0" Hg). All exterior walls, fenestration, and other openings shall be designed to withstand that two-inch maximum pressure differential without rupture or distress.

g. All drawings submitted in application for a building permit for construction in conditionally approved HSD zones shall bear a certification, by a professional engineer registered to practice in the State of Florida, that the structure(s) shown are in full compliance with the requirements of the provisions of section 2. of the HSD land development regulations.

3. Special Building Facilities Requirements in HSD Zones

a. Elevated potable water storage containing a minimum capacity of 6.0 U.S.gallons of potable water per person for the rated shelter capacity of the building plus the normally expected residents of the building shall be provided. (Rated refuge capacity shall be based on 15 square feet of floor space per person for floor area designated as emergency refuge area for the project.) Stored water shall be located within or on the building 1.0 feet or more above the base flood elevation, in such a way that the water supply contained will be available by gravity flow to designated refuge area(s) indicated on the plans.

b. Storage space for the amount of emergency provisions and supplies prescribed by the Monroe

Monroe County Office of Emergency Management for the number of persons in rated shelter capacity for a three-day emergency duration.

c. A communications room equipped with at least a minimum complement of UHF/VHF radio communication equipment, with capability of operating on frequencies specified by the Monroe County Office of Emergency Management as needed to maintain radio communications during hurricane emergency conditions.

d. Emergency electric power generating facilities shall be supplied by co-generation or stand-by electric generator equipment capable of sustaining not less than 50% of peak electric power demand of the entire HSD development independently of any external electric power supply from public utility distribution systems serving the site. Fuel supply required for operation of electric power generation equipment shall be of sufficient capacity, stored above the base flood elevation, to carry electric load at 50% of peak demand capacity for a period of not less than 72 hours. This emergency power supply system shall be in addition to such other emergency lighting and power distribution systems as are required by building codes directly and/or by reference to other applicable standards.

e. Paved access roads shall be constructed by the developer in accordance with Monroe County road standards, across dedicated easements and/or public rights-of-way as may be required, to conjoin the intended principle access route to the site, together with at least one additional alternate route to the site, with the closest existing paved roadway along intended routes of travel interconnecting the site with existing paved roadway systems.

f. Not less than 10% of total habitable floor area approved for construction on the site in the first phase of its proposed construction sequence shall be located at an elevation at least 55 feet above natural grade existing on the site before construction activities begin.

4. Site Development Criteria for Buildings in HSD Zones

a. Minimum set-back distance of any point on any building wall line shall not be less than 150 feet from nearest point on a site boundary line. Unenclosed cantilevered balconies, walkways, and roof overhangs, above base flood elevation, not supported by vertical supports extending from ground level, may extend into the space above these ground-level set-backs.

b. Maximum building land coverage as seen in plan outline shall not exceed eight and one-half per cent (8.5 %) of total buildable land area of the HSD tract.

c. Basic floor area ratio (FAR) of all buildings constructed within designated HSD shall not exceed 0.4, exclusive of all non-enclosed covered areas, areas not intended for occupancy (viz.-open "stilt" areas below base flood elevation), and all areas designated exclusively for purpose of accommodating required elevated emergency equipment and storage of emergency supplies as required by paragraphs 3.a, 3.b, and 3.e above. That basic permissible FAR may be increased by an

permissible building land coverage, as permitted under paragraph 4.b., not covered by the footprint of the proposed building (s).

d. To permit attainment of maximum FAR permitted by paragraph 4.c., within land coverage constraints imposed by paragraph 4.b. above, all existing building height limitations pertaining to all other categories of land use, together with all other local government ordinances or regulations of other governmental agencies limiting maximum permissible building height, are waived for buildings in HSD zones.

5. Special Occupancy and Use Limitations in HSD Zones

a. Multiple use occupancies may be combined in a single building and/or within a single HSD project if so indicated on the plans, and if all provisions of building codes pertaining to multiple use occupancies are met for the combination of occupancies proposed.

b. If either multiple use occupancies of a single building, or two or more buildings are proposed for a HSD project, arrangements must be provided for confining supply of electric power from the emergency electric power generation system, and emergency water supply system, to that portion of the facility containing all required hurricane shelter/refuge accommodations during periods of declared hurricane emergencies.

c. Building floor area devoted to residential occupancy, if provided, shall not exceed the maximum permissible number of dwelling units permitted under the existing zoning classification of the site for which HSD designation is requested, nor shall it exceed a FAR of 0.15 of the total FAR permitted, whichever is greater.

d. Maximum floor area of a hotel/motel guest room shall not exceed 400 square feet, shall not provide kitchen facilities within guest rooms, nor shall the maximum number of hotel guest rooms exceed 25 units per acre.

e. Floor areas designated for emergency hurricane shelter accommodations shall not be included in determination of maximum allowable FAR for the non-emergency occupancy proposed.

f. Required parking ratios for each type of occupancy proposed for inclusion in HSD projects shall be provided in accordance with required parking ratios for each use included as defined elsewhere in the land use regulations. Provision of such parking facilities may make use of land in set-back clearances designated in paragraph 4.a. above, and/or open parking deck level(s) a minimum of 9.0 feet below the lowest enclosed floor area.

g. Minimum designated emergency shelter floor areas in HSD projects shall be:

1) For HSD projects containing not more than 60,000 square feet of gross building floor area, at least 6,000 square feet of designated shelter area floor space, in a shape suitable for intended shelter accommodation.

2) For HSD projects containing in excess of 60,000 square feet of gross building floor area, designated emergency shelter floor area shall be not less than 10 % of the gross building floor area of the project.

6. Special Major Conditional Use Administrative Review Procedures for HSD Zones

Applications for HSD classification shall generally be required to be accompanied by the same supportive documentation as that required to accompany application for a zoning ammendment as prescribed by existing land use plan regulations, with exception that all Monroe County impact fees shall be waived, all constraints on development stipulated under the Rate of Growth regulations shall be waived, and all other matters clearly not intended to supersede HSD concerns may also be waived by the Director of Planning.

To fulfill the intent of provision of HSD's, the following conditions are recognized:

a. No HSD zone designated may contain internal subdivision(s) of the parcel for which HSD classification is being sought. Designated HSD zones, may not thereafter be subdivided.

b. Internal portions of the tract shall not be further classified in other land use categories.

c. The master plan submitted for approval of a proposed HSD project shall include location, size, floor area content, and proposed occupancy category(ies) of each structure to be incorporated in the development of the entire tract, and the intended phasing or sequencing of construction. All shelter and access road provisions must be included in the first phase.

d. Ownership of the entire project, consisting of both land and proposed improvements, shall be held by a single legal entity authorized to hold title thereto; such legal entity shall hold an undivided interest in the entire project contents insofar as land records of the local government are concerned; that single owning entity shall be responsible for payment of all taxes or other obligations of an owner; and shall be responsible for maintenance of all emergency refuge/shelter provisions required in an operable condition at all times. If, at any time, upon inspection by the Monroe County Office of Emergency Management, deficiencies in emergency facility requirements are noted, they will be reported to the responsible legal entity owning and responsible for such maintenance, and if not rectified within thirty days of receipt of such notice, may be rectified by the Office of Emergency Management, and costs thereof entered as a lien upon the property with procedure for recovering that cost being available at law in the same manner as any other obligation of a property owner to a lienor.

e. The master plan for the development shall clearly indicate all dimensions of set-back distances, direction and proximity to nearest shore lines and nearest point on the U.S.Rte.#1 right-of-way, routes of travel intended for access, wetlands exclusions, and all data necessary to permit determination of compliance with all provisions required for projects in HSD zones.

f. If phased development be contemplated, all special HSD requirements must be provided in the first phase to be constructed, and no occupancy permit may be issued for use of any facility constructed within HSD zoned parcels until all special HSD building requirements have been constructed, installed, and are in operational readiness.

g. No limitations that may be applicable pursuant to the provisions of Rate of Growth regulations shall be applicable to HSD projects and all building permits required for prosecution of the work shall be issued outside whatever limitations may be imposed upon the issuance of such permits pursuant to Rate of Growth regulations.

7. HSD Approval and Authorization Procedures

a. Applications for HSD zoning designation shall be recorded and dated in chronological order received. As each application is received, it shall be checked against all applications received bearing a prior chronological order number to determine if the application relates to a parcel interfering with the four-mile proximity rule contained in paragraph 1.d. above. Should an interference be found, applicant shall be so advised, and shall be given the location and name of the applicant holding prior application rights. The second applicant may, at his discretion, either withdraw his application, or leave it filed with notation indicating his queue position relative to other applications predating it pertaining to the same area with which it is in conflict by virtue of the proximity rule. Should the holder of the prior filing fail to fulfill all requirements, or fail to pursue construction of his approved project as provided for herein (resulting in cancellation of the prior approval as provided for herein), the holder of the next dated application for the area shall be immediately notified to proceed with his application.

b. The Planning Department staff shall review applications as filed for compliance with all provisions specified for HSD projects including consideration of waivers granted by the Director in accordance with provisions of paragraph 6. above. Applicant shall be notified of any deficiencies found, and shall be afforded a reasonable opportunity to submit additional materials and/or amend materials submitted to bring applications into full compliance. When all materials have been assembled and verified as to completeness and compliance with all provisions contained herein, the Director of Planning shall so certify the application, and it shall be considered by the Board of County Commissioners for certification.

c. After approval is received from the Director of Planning, the project shall be placed on the agenda for the next regular meeting of the Board of County commissioners. Procedures for final approval thereafter shall be the same as those for other rezoning applications, except that approval issued shall be no more than "conditional HSD approval", conditioned on: submittal of building plans for building permits within six-months, start of construction within 60-days thereafter, up through issuance of certificate of occupancy in accordance with usual procedures for building construction. In addition, applicant shall be required to furnish a completion bond issued by a recognized surety in the State of Florida to assure construction completion of the project if approved, prior to issuance of a construction building permit by the Building Department.

d. If, for any reason, any time allowances in that process are not met, "conditional HSD approval" may be terminated, the land remains in the form of its land use designation before request for its rezoning, and the application right shall be given to the next applicant in the queue for the area. Should failure to prosecute work occur after construction has proceeded beyond foundation work, owner and/or surety may be required to proceed with the work in accordance with the schedule described in the completion bond, or restore the property to its original pre-construction condition, unless delay is reasonably attributable to "forces majeure". Upon completion of the project, HSD zoning designation shall be granted, shall be recorded, and land records and maps amended as described. Operation of facilities in accordance with HSD obligations shall become obligations of whomever holds or acquires title to the property thereafter. Should restoration to pre-construction conditions be chosen as alternative to project completion, zoning shall automatically remain in its pre-construction category, and HSD development opportunity shall become available to the next applicant in the queue. Only the completed project, not the land, may receive HSD designation.

e. The County Commission will hold the same review and public hearing process as is normal procedure for any other rezoning approval.

f. Certificate of Occupancy shall not be issued until required refuge/shelter provisions have been installed, inspected, and approved by the Office of Emergency Management, in addition to normal inspection and approval of construction by the Building Department, and as-built condition of the building has been certified by a professional engineer registered in the State of Florida as having been built in compliance with all structural requirements for buildings in HSD zones. Owner shall retain the services of a qualified licensed independent testing and inspection organization for the duration of construction of the building to accompany such certification.

g. Upon issuance of Certificate of Occupancy for the HSD project, land use plan maps shall be amended to indicate boundaries of the HSD zone thereby created, and the new zoning designation shall be recorded in land records on the deed for the parcel affected.